

Amendments to the Claims:

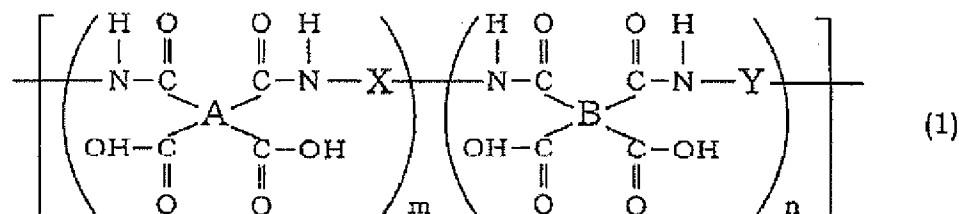
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

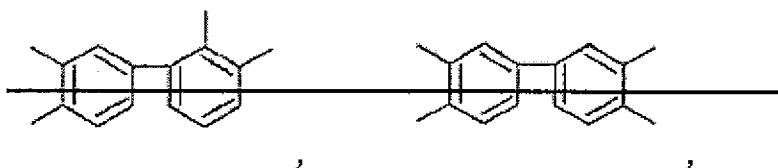
1. (Currently amended) A method for preparing a laminate comprising a thermoplastic polyimide layer, and a metal layer on a surface of the thermoplastic polyimide layer,

~~wherein said thermoplastic polyimide layer is surface-treated by at least one treatment selected from the group consisting of a plasma treatment, a corona treatment, a coupling agent treatment, a permanganate treatment, a ultraviolet ray emitting treatment, an electron beam emitting treatment, surface treatment by colliding an abrasive at a high speed, a firing treatment, and a hydrophilization treatment~~ metal layer is formed by depositing a metal element while heating the thermoplastic polyimide layer,

wherein said thermoplastic polyimide layer comprises a thermoplastic polyimide which is obtained by dehydration and ring-closing a polyamic acid represented by the following general formula (1);

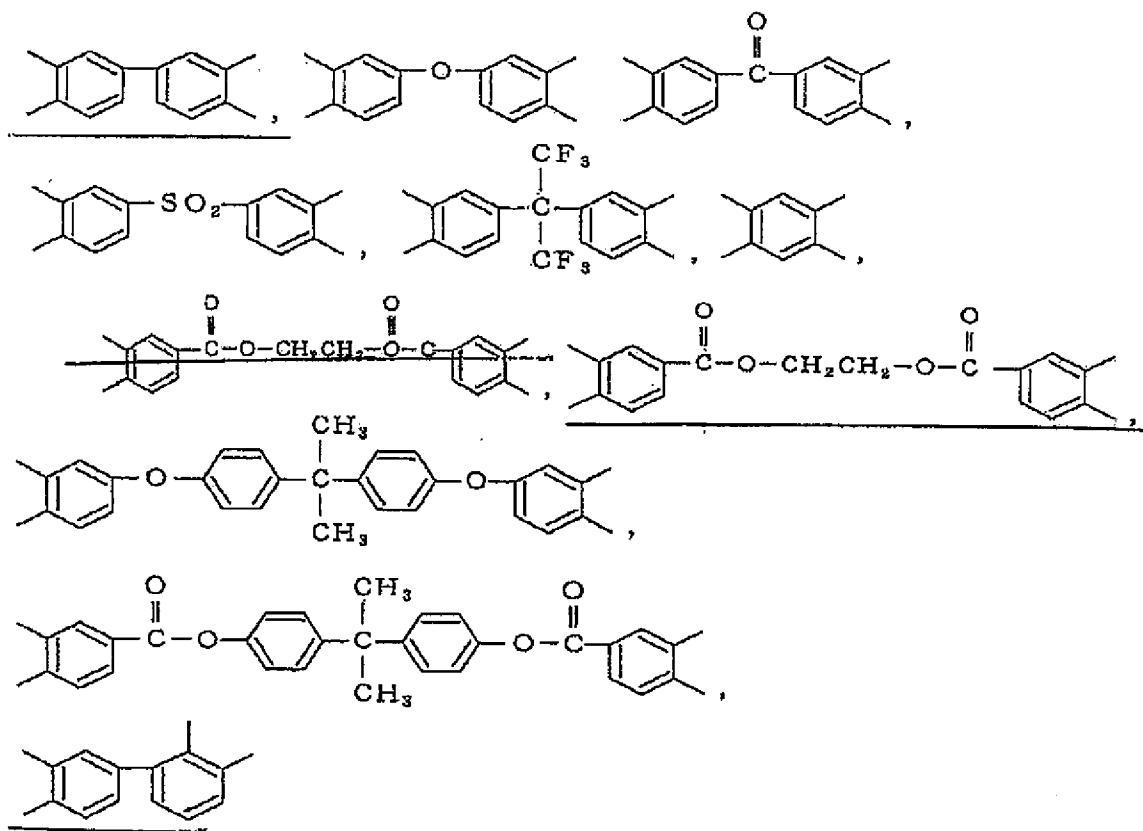


wherein A is a quadrivalent organic group selected from the following formula (2), and may be the same or different; X is a divalent organic group selected from the following formula (3), and may be the same or different; B is a quadrivalent organic group other than those represented by the formula (2) and ~~excluding the biphenyl structures of:~~

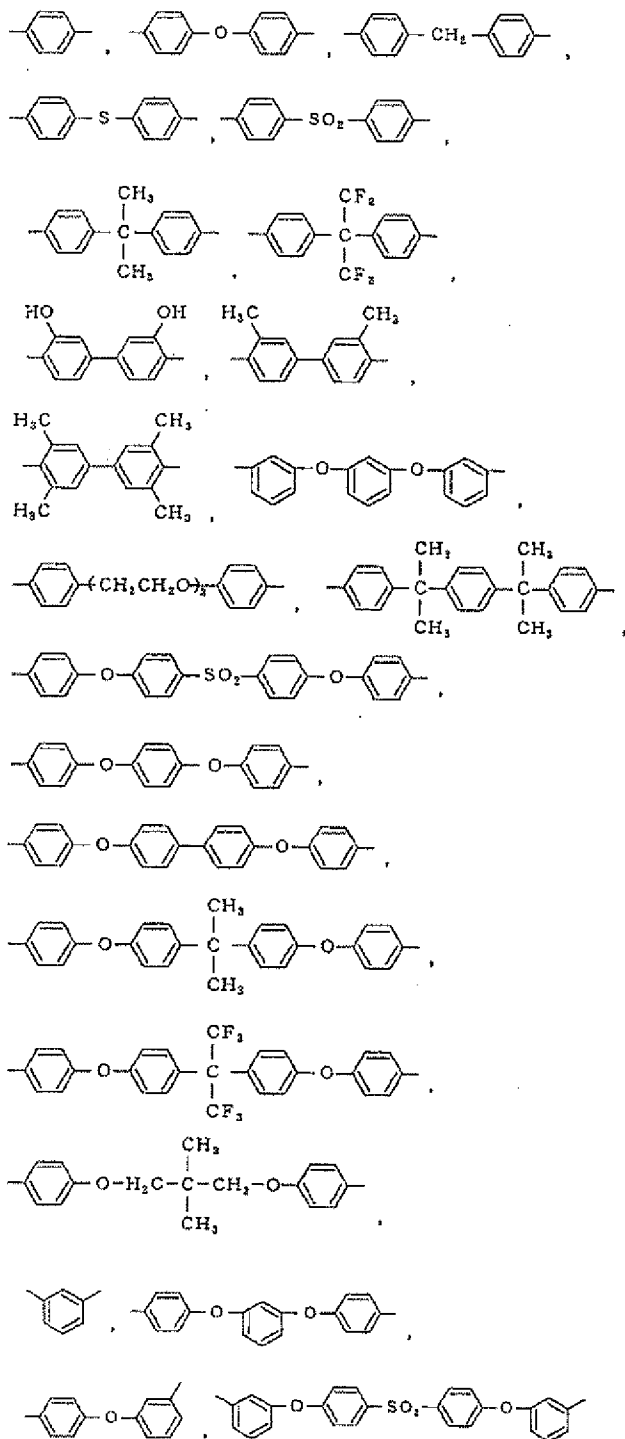


and may be the same or different; Y is a divalent organic group other than those represented by the formula (3), and may be the same or different; m : n is 100 : 0 to 50:50;

Formula (2)



Formula (3)



2. (Canceled)

3. (Currently amended) The laminate method of Claim 1, wherein said thermoplastic polyimide layer is surface-treated by means of an ion gun treatment.

4. (Currently amended) The laminate method of Claim 3, wherein said ion gun treatment is a treatment using argon ion.

5. (Canceled)

6. (Currently amended) The laminate method of Claim ~~[[5]]~~ 1, wherein a heating temperature is at least 100°C.

7. (Currently amended) The laminate method of any one of Claims 1, 3, ~~or~~ 4, or 26, wherein said metal layer is an electrolessly plated layer.

8. (Currently amended) The laminate method of Claim 6, wherein said metal layer is formed by at least one method selected from the group consisting of a sputtering method, a vacuum vapor deposition method, an ion plating method, an electron beam vapor deposition method, and a chemical vapor deposition method.

9. (Currently amended) The laminate method of Claim 8, wherein said metal layer comprises a first metal layer and a second metal layer.

10. (Currently amended) The laminate method of Claim 9, wherein said first metal layer comprises nickel, cobalt, chrome, titanium, molybdenum, tungsten, zinc, tin, indium, gold, or an alloy thereof.

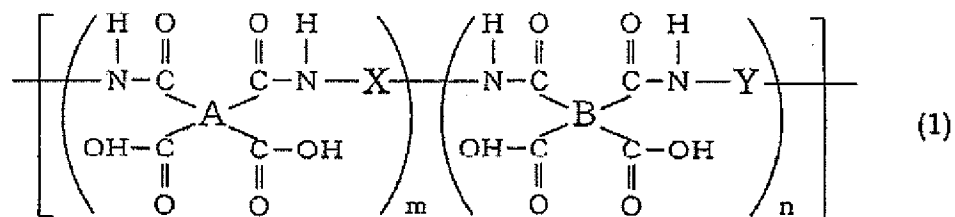
11. (Currently amended) The laminate method of Claim 10, wherein said second metal layer comprises copper or an alloy thereof.

12. (Currently amended) A method for preparing a laminate comprising
a non-thermoplastic polyimide layer having a thermoplastic polyimide layer on at
least one face; and

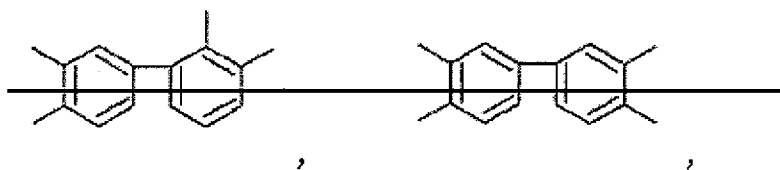
a metal layer formed on at least one face of surfaces of said thermoplastic
polyimide layer,

~~wherein said thermoplastic polyimide layer is surface treated by at least one
treatment selected from the group consisting of a plasma treatment, a corona treatment,
a coupling agent treatment, a permanganate treatment, a ultraviolet ray emitting
treatment, an electron beam emitting treatment, surface treatment by colliding an
abrasive at a high speed, a firing treatment, and a hydrophilization treatment~~ metal layer
is formed by depositing a metal element while heating the thermoplastic polyimide layer,

wherein said thermoplastic polyimide layer comprises a thermoplastic polyimide
which is obtained by dehydration and ring-closing a polyamic acid represented by the
following general formula (1);

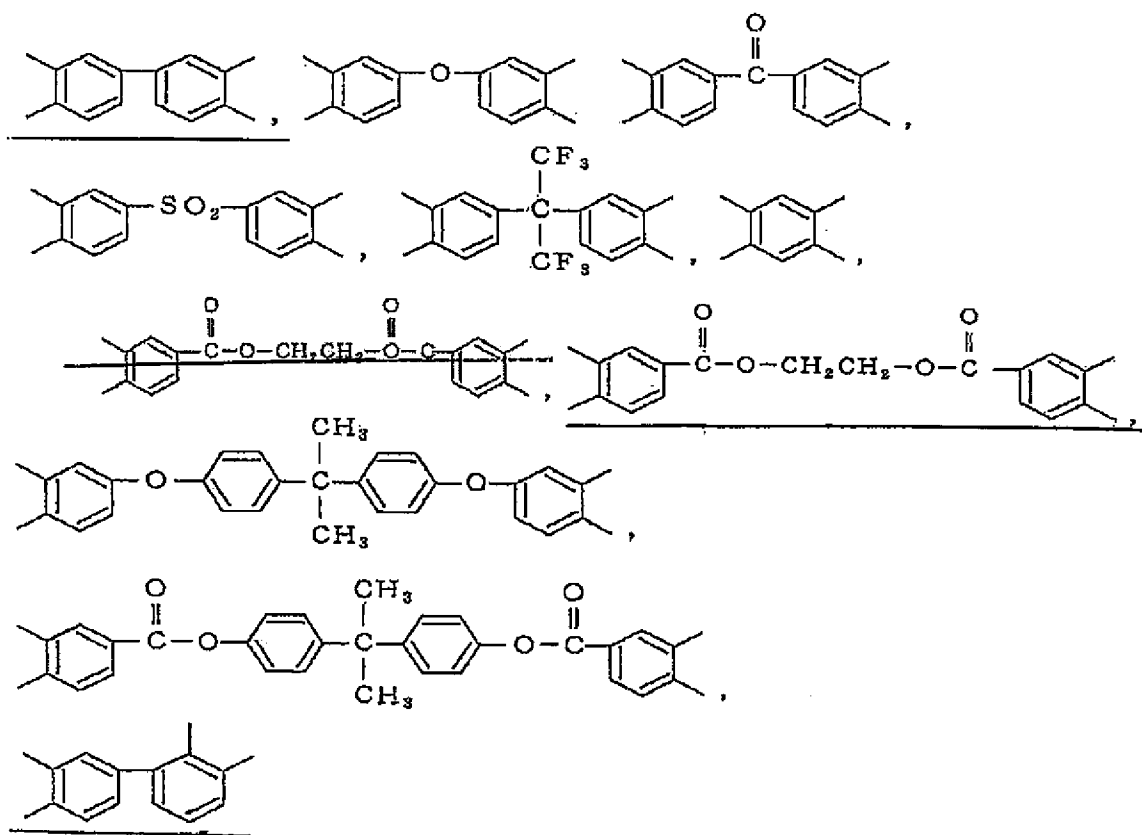


wherein A is a quadrivalent organic group selected from the following formula (2), and
may be the same or different; X is a divalent organic group selected from the following
formula (3), and may be the same or different; B is a quadrivalent organic group other
than those represented by the formula (2), and ~~excluding the biphenyl structures of:~~

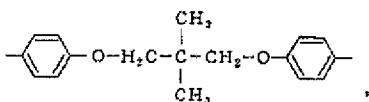
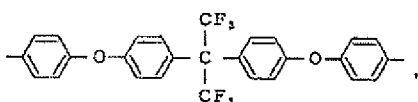
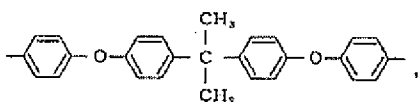
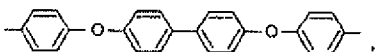
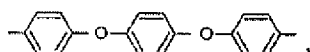
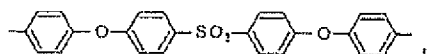
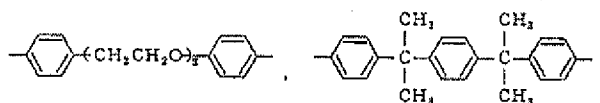
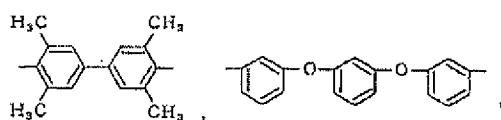
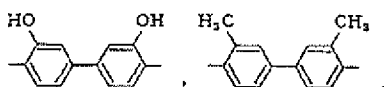
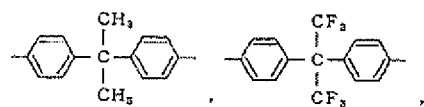
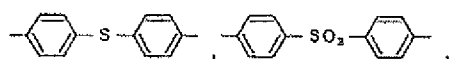
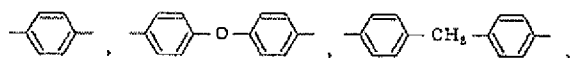


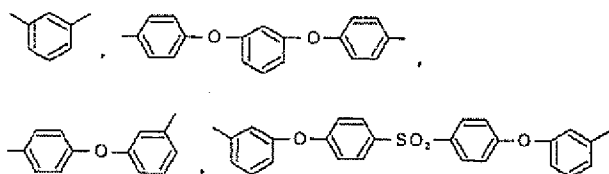
and may be the same or different; Y is a divalent organic group other than those represented by the formula (3), and may be the same or different; m : n is 100 : 0 to 50:50;

Formula (2)



Formula (3)

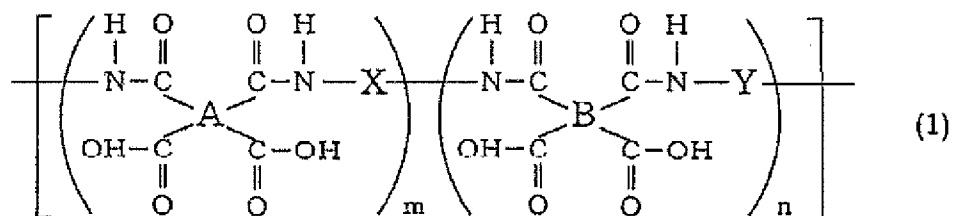




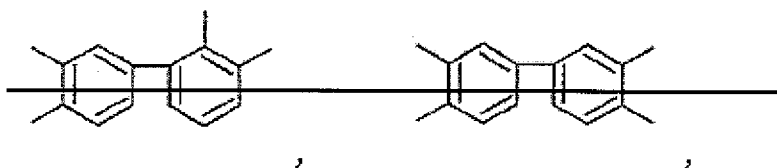
13. (Currently amended) A method for preparing a laminate comprising a thermoplastic polyimide layer and a metal layer formed on said thermoplastic polyimide layer on one surface, and an adhesive layer on the other face,

~~wherein said thermoplastic polyimide layer is surface treated by at least one treatment selected from the group consisting of a plasma treatment, a corona treatment, a coupling agent treatment, a permanganate treatment, a ultraviolet ray emitting treatment, an electron beam emitting treatment, surface treatment by colliding an abrasive at a high speed, a firing treatment, and a hydrophilization treatment~~ metal layer is formed by depositing a metal element while heating the thermoplastic polyimide layer,

wherein said thermoplastic polyimide layer comprises a thermoplastic polyimide which is obtained by dehydration and ring-closing a polyamic acid represented by the following general formula (1);

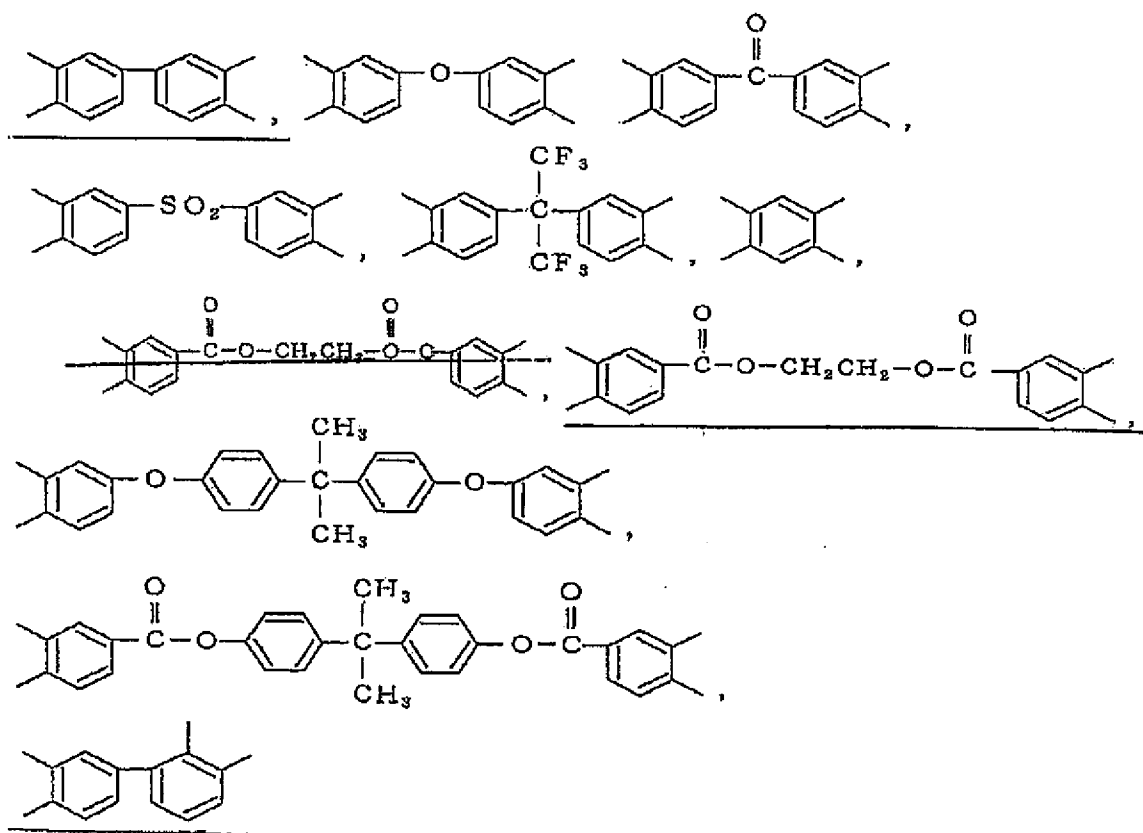


wherein A is a quadrivalent organic group selected from the following formula (2), and may be the same or different; X is a divalent organic group selected from the following formula (3), and may be the same or different; B is a quadrivalent organic group other than those represented by the formula (2), and ~~excluding the biphenyl structures of:~~

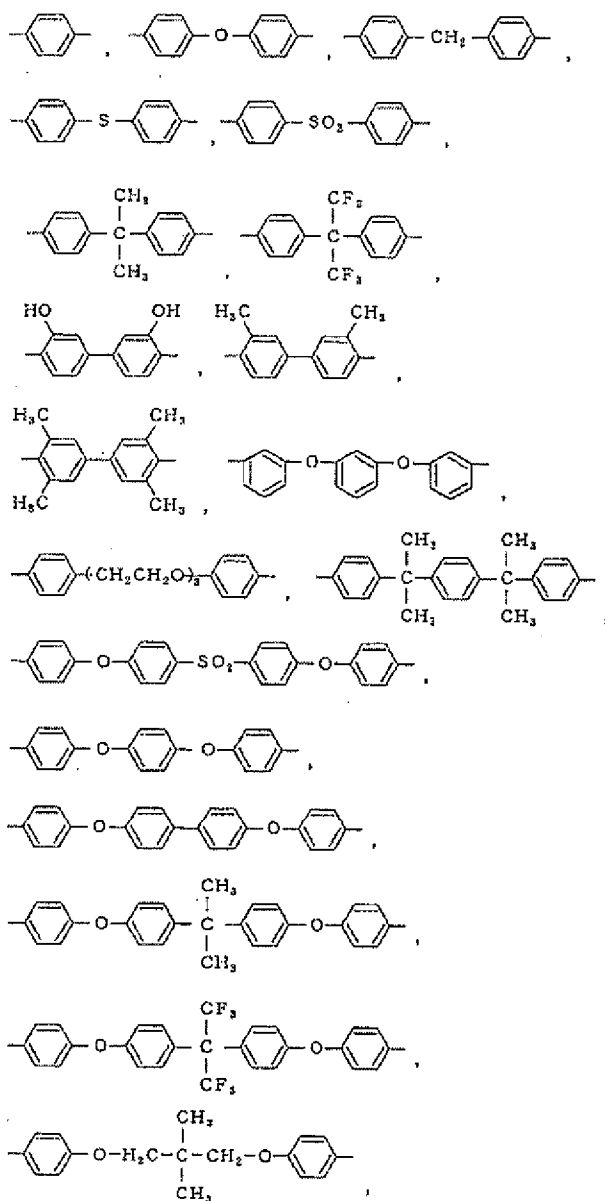


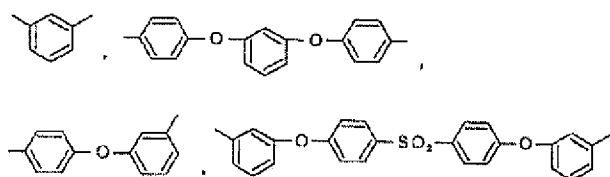
and may be the same or different; Y is a divalent organic group other than those represented by the formula (3), and may be the same or different; m : n is 100 : 0 to 50:50;

Formula (2)



Formula (3)

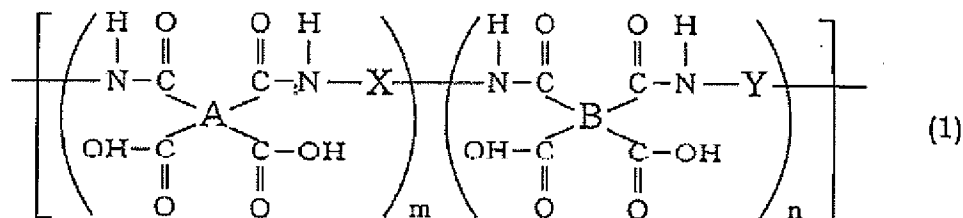




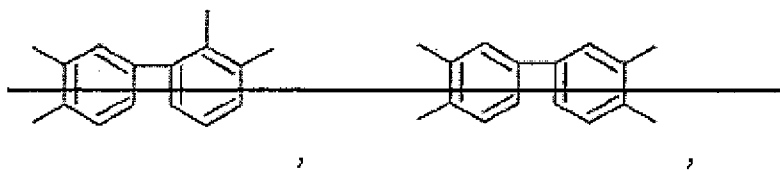
14. (Currently amended) A method for preparing a laminate comprising a thermoplastic polyimide layer and a metal layer formed on said thermoplastic polyimide layer on one surface, and a copper foil on the other face,

~~wherein said thermoplastic polyimide layer is surface treated by at least one treatment selected from the group consisting of a plasma treatment, a corona treatment, a coupling agent treatment, a permanganate treatment, a ultraviolet ray emitting treatment, an electron beam emitting treatment, surface treatment by colliding an abrasive at a high speed, a firing treatment, and a hydrophilization treatment~~ metal layer is formed by depositing a metal element while heating the thermoplastic polyimide layer,

wherein said thermoplastic polyimide layer comprises a thermoplastic polyimide which is obtained by dehydration and ring-closing a polyamic acid represented by the following general formula (1);

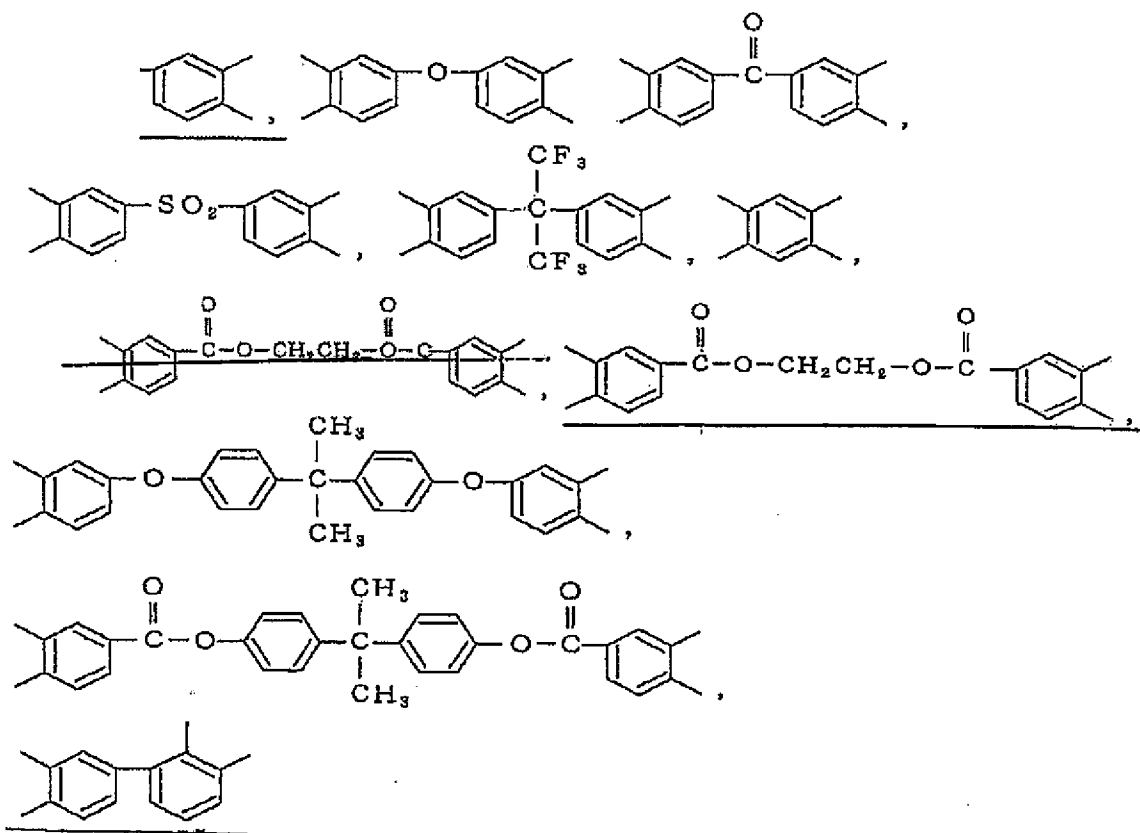


wherein A is a quadrivalent organic group selected from the following formula (2), and may be the same or different; X is a divalent organic group selected from the following formula (3), and may be the same or different; B is a quadrivalent organic group other than those represented by the formula (2) ~~and excluding the biphenyl structures of:~~

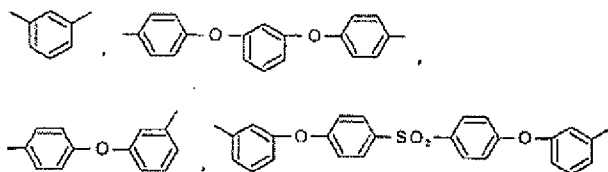


and may be the same or different; Y is a divalent organic group other than those represented by the formula (3), and may be the same or different; m : n is 100 : 0 to 50:50;

Formula (2)



$\text{---} \text{C}_6\text{H}_4 \text{---}$, $\text{---} \text{C}_6\text{H}_4 \text{---O---C}_6\text{H}_4 \text{---}$, $\text{---} \text{C}_6\text{H}_4 \text{---CH}_2 \text{---C}_6\text{H}_4 \text{---}$,
 $\text{---} \text{C}_6\text{H}_4 \text{---S---C}_6\text{H}_4 \text{---}$, $\text{---} \text{C}_6\text{H}_4 \text{---SO}_2 \text{---C}_6\text{H}_4 \text{---}$,
 $\text{---} \text{C}_6\text{H}_4 \text{---} \overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}} \text{---} \text{C}_6\text{H}_4 \text{---}$, $\text{---} \text{C}_6\text{H}_4 \text{---} \overset{\text{CF}_3}{\underset{\text{CF}_3}{\text{C}}} \text{---} \text{C}_6\text{H}_4 \text{---}$,
 $\text{---} \text{C}_6\text{H}_3(\text{OH})_2 \text{---C}_6\text{H}_3(\text{OH})_2 \text{---}$, $\text{---} \text{C}_6\text{H}_3(\text{CH}_3)_2 \text{---C}_6\text{H}_3(\text{CH}_3)_2 \text{---}$,
 $\text{---} \text{C}_6\text{H}_3(\text{CH}_3)_3 \text{---C}_6\text{H}_3(\text{CH}_3)_3 \text{---}$, $\text{---} \text{C}_6\text{H}_4 \text{---O---C}_6\text{H}_3(\text{CH}_3)_2 \text{---O---C}_6\text{H}_4 \text{---}$,
 $\text{---} \text{C}_6\text{H}_4 \text{---}(\text{CH}_2\text{CH}_2\text{O})_3 \text{---C}_6\text{H}_4 \text{---}$, $\text{---} \text{C}_6\text{H}_4 \text{---} \overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}} \text{---C}_6\text{H}_4 \text{---} \overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}} \text{---C}_6\text{H}_4 \text{---}$,
 $\text{---} \text{C}_6\text{H}_4 \text{---O---C}_6\text{H}_4 \text{---SO}_2 \text{---C}_6\text{H}_4 \text{---O---C}_6\text{H}_4 \text{---}$,
 $\text{---} \text{C}_6\text{H}_4 \text{---O---C}_6\text{H}_4 \text{---C}_6\text{H}_4 \text{---O---C}_6\text{H}_4 \text{---}$,
 $\text{---} \text{C}_6\text{H}_4 \text{---O---C}_6\text{H}_4 \text{---} \overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}} \text{---C}_6\text{H}_4 \text{---O---C}_6\text{H}_4 \text{---}$,
 $\text{---} \text{C}_6\text{H}_4 \text{---O---C}_6\text{H}_4 \text{---} \overset{\text{CF}_3}{\underset{\text{CF}_3}{\text{C}}} \text{---C}_6\text{H}_4 \text{---O---C}_6\text{H}_4 \text{---}$,
 $\text{---} \text{C}_6\text{H}_4 \text{---O---H}_2\text{C---} \overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}} \text{---CH}_2\text{---O---C}_6\text{H}_4 \text{---}$,



15. (Canceled)

16. (Currently amended) The laminate method of any one of Claims 12, 13, or 14, wherein said thermoplastic polyimide layer is surface-treated by an ion gun treatment.

17. (Currently amended) The laminate method of Claim 16, wherein said ion gun treatment is a treatment using argon ion.

18. (Canceled)

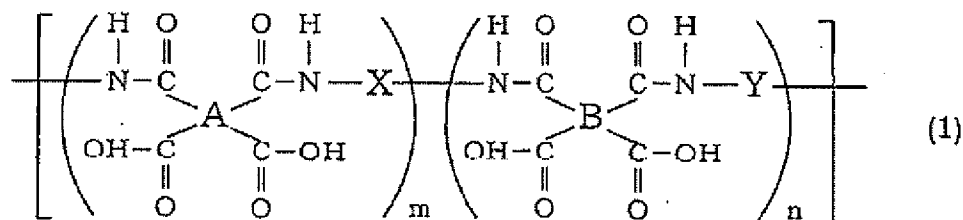
19. (Currently amended) The laminate method of Claim 18 of any one of Claims 12, 13, or 14, wherein a heating temperature is at least 100°C.

20. (Currently amended) A method for preparing a laminate comprising a polyimide film and a metal layer,

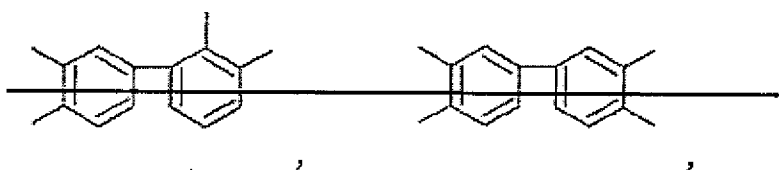
~~wherein said polyimide film is at least two-layered structure which comprises a non-thermoplastic polyimide layer and a thermoplastic polyimide layer formed on at least one face of the non-thermoplastic polyimide layer; and said metal layer comprises a first metal layer which comprises nickel, cobalt, chrome, titanium, molybdenum, tungsten, zinc, tin, indium, gold, or an alloy thereof, and a second metal layer which comprises copper or an alloy thereof on the first metal layer, wherein said thermoplastic polyimide layer is surface treated by at least one treatment selected from the group consisting of a plasma treatment, a corona treatment, a coupling agent treatment, a permanganate treatment, a ultraviolet ray emitting treatment, an electron beam emitting~~

~~treatment, surface treatment by colliding an abrasive at a high speed, a firing treatment,~~
and a hydrophilization treatment metal layer is formed by depositing a metal element
while heating the thermoplastic polyimide layer,

wherein said thermoplastic polyimide layer comprises a thermoplastic polyimide which is obtained by dehydration and ring-closing a polyamic acid represented by the following general formula (1);

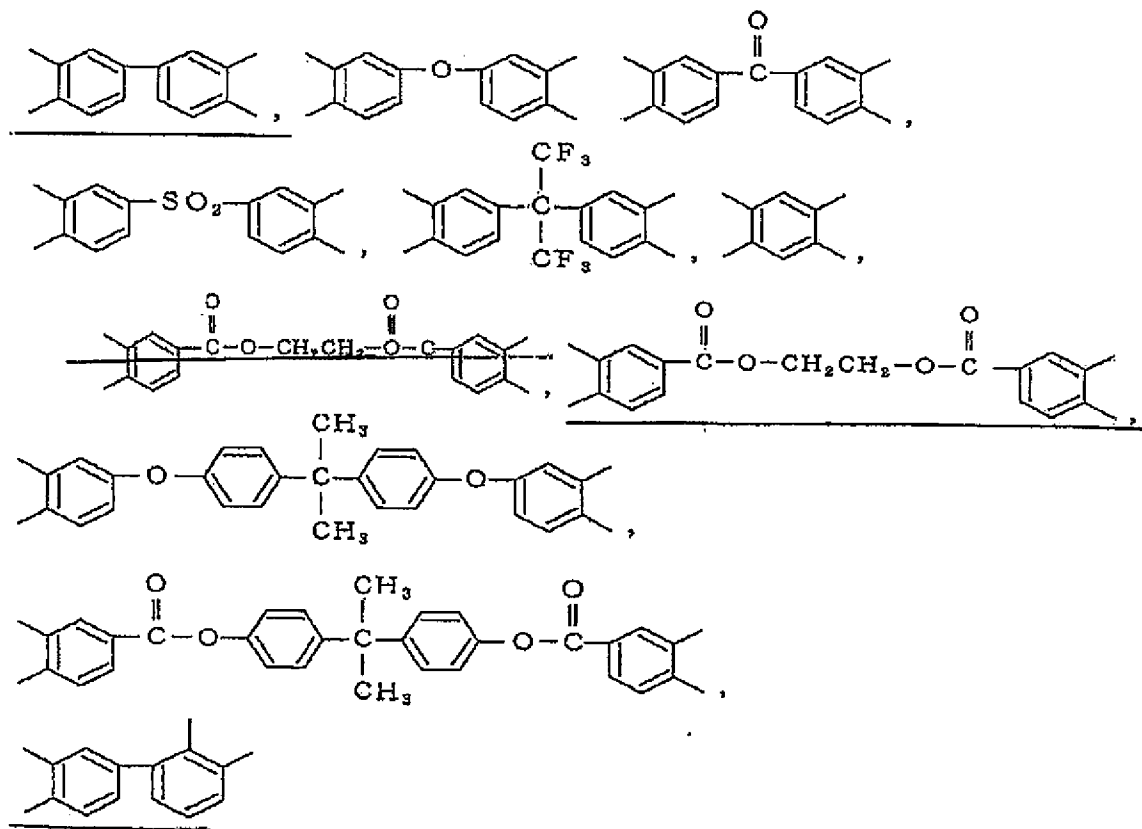


wherein A is a quadrivalent organic group selected from the following formula (2), and may be the same or different; X is a divalent organic group selected from the following formula (3), and may be the same or different; B is a quadrivalent organic group other than those represented by the formula (2), and ~~excluding the biphenyl structures of:~~

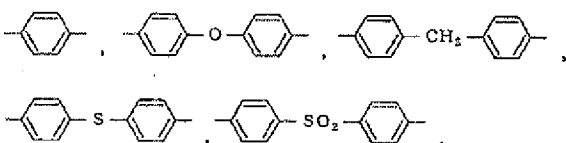


and may be the same or different; Y is a divalent organic group other than those represented by the formula (3), and may be the same or different; m : n is 100 : 0 to 50:50;

Formula (2)



Formula (3)





Page 18 of 23

22. (Currently amended) The ~~lamine~~ method of any one of Claims 12, 13, 14, or 20, wherein thickness of said thermoplastic polyimide layer is at least 0.01 μm to at most 10 μm , and is thicker than the non-thermoplastic polyimide layer.

23-25. (Canceled)

26. (New) The method of Claim 1, wherein said thermoplastic polyimide layer is surface-treated by at least one treatment selected from the group consisting of a plasma treatment, a corona treatment, a coupling agent treatment, a permanganate treatment, an ultraviolet ray emitting treatment, an electron beam emitting treatment, surface treatment by colliding an abrasive at a high speed, a firing treatment, and a hydrophilization treatment.

27. (New) The method of any one of Claims 12, 13, or 14, wherein said thermoplastic polyimide layer is surface-treated by at least one treatment selected from the group consisting of a plasma treatment, a corona treatment, a coupling agent treatment, a permanganate treatment, a ultraviolet ray emitting treatment, an electron beam emitting treatment, surface treatment by colliding an abrasive at a high speed, a firing treatment, and a hydrophilization treatment.